

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/573,330
Source: IFW2P
Date Processed by STIC: 4-4-06

ENTERED



IFWP

RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/10/573,330

TIME: 10:33:36

Input Set : A:\21500P SEQLIST.TXT

Output Set: N:\CRF4\04042006\J573330.raw

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4 <110> APPLICANT: Bryan, Janine T.
5     Brownlow, Michelle K.
6     Schultz, Loren D.
7     Jansen, Kathrin U.
11 <120> TITLE OF INVENTION: OPTIMIZED EXPRESSION OF HPV 45 L1 IN
12     YEAST
14 <130> FILE REFERENCE: 21500
C--> 16 <140> CURRENT APPLICATION NUMBER: US/10/573,330
C--> 16 <141> CURRENT FILING DATE: 2006-03-24
16 <150> PRIOR APPLICATION NUMBER: PCT/US2004/31326
17 <151> PRIOR FILING DATE: 2004-09-24
19 <150> PRIOR APPLICATION NUMBER: 60/506,812
20 <151> PRIOR FILING DATE: 2003-09-29
22 <160> NUMBER OF SEQ ID NOS: 8
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28 <212> TYPE: DNA
29 <213> ORGANISM: Artificial Sequence
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32 <223> OTHER INFORMATION: HPV45 L1R
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37 agattgttga ctgtcggtaa cccatacttc agagtcgtcc catccggtgc tggtaacaag 180
38 caagctgttc caaaggcttc tgcttaccaa tacagagtct tcagagtcgc tttgccagac 240
39 ccaacaaga tgcggttgcc agactctact atctacaacc cagaaactca aagattggtc 300
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41 caccattctt acaacaagtt ggacgacacc gaatccgctc acgctgctac tgcgtgcatc 420
42 actcaagacg tcagagacaa cgtctctgtc gactacaagc aaaccaatt gtgtatcttg 480
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44 ttgcaaccag gtgactgtcc accattggaa ttgaagaaca ctatcatcga agacggtgac 600
45 atggttgaca ctggttacgg tgctatggac ttctccaccc tgcaggacac taagtgtgaa 660
46 gttccattgg acatctgtca atctatctgt aagtaccag actacttgca aatgtccgct 720
47 gaccatacgt gtgactctat gttcttctgt ttgagaagag aacaattgtt cgctagacac 780
48 ttctggaaca gagctggtgt catgggtgac actgttccaa ctgacttgta catcaagggt 840
49 acctctgcta acatgagaga aactccagggt tcctgtgtct actctccatc tccatctggt 900
50 tctatcacta cttccgactc tcaattgttc aacaagccat actggttgca caaggctcaa 960
51 ggtcacaaca acggtatctg ttggcacaac caattgttcg tcaccgtcgt tgacactacc 1020
52 agatctacta acttgacctt gtgtgcttct actcaaaacc cagttccaaa cacttacgac 1080
53 ccaaccaagt tcaagcacta ctccagacac gtcgaggaat acgacttgca attcatcttc 1140
54 caattgtgta ctatcacctt gaccgctgaa gtcatgtcct acattcactc tatgaactcc 1200
55 tctatcttgg aaaactggaa cttcggtgtt ccaccaccac caaccacctc cttggttgac 1260

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58 tccgacttgg accaataccc attgggtaga aagttcttgg ttcaagctgg tttgagacgt 1440
59 agaccaacta tcggtccacg taagagacca gctgcttcca cttccactgc ttctagacca 1500
60 gctaagcgtg tcagaatcag atccaagaag taa 1533
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63 <211> LENGTH: 510
64 <212> TYPE: PRT
65 <213> ORGANISM: Human Papillomavirus Type 45
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69 1 5 10 15
70 Ser Val Ala Arg Val Val Asn Thr Asp Tyr Val Ser Arg Thr Ser
71 20 25 30
72 Ile Phe Tyr His Ala Gly Ser Ser Arg Leu Leu Thr Val Gly Asn Pro
73 35 40 45
74 Tyr Phe Arg Val Val Pro Ser Gly Ala Gly Asn Lys Gln Ala Val Pro
75 50 55 60
76 Lys Val Ser Ala Tyr Gln Tyr Arg Val Phe Arg Val Ala Leu Pro Asp
77 65 70 75 80
78 Pro Asn Lys Phe Gly Leu Pro Asp Ser Thr Ile Tyr Asn Pro Glu Thr
79 85 90 95
80 Gln Arg Leu Val Trp Ala Cys Val Gly Met Glu Ile Gly Arg Gly Gln
81 100 105 110
82 Pro Leu Gly Ile Gly Leu Ser Gly His Pro Phe Tyr Asn Lys Leu Asp
83 115 120 125
84 Asp Thr Glu Ser Ala His Ala Ala Thr Ala Val Ile Thr Gln Asp Val
85 130 135 140
86 Arg Asp Asn Val Ser Val Asp Tyr Lys Gln Thr Gln Leu Cys Ile Leu
87 145 150 155 160
88 Gly Cys Val Pro Ala Ile Gly Glu His Trp Ala Lys Gly Thr Leu Cys
89 165 170 175
90 Lys Pro Ala Gln Leu Gln Pro Gly Asp Cys Pro Pro Leu Glu Leu Lys
91 180 185 190
92 Asn Thr Ile Ile Glu Asp Gly Asp Met Val Asp Thr Gly Tyr Gly Ala
93 195 200 205
94 Met Asp Phe Ser Thr Leu Gln Asp Thr Lys Cys Glu Val Pro Leu Asp
95 210 215 220
96 Ile Cys Gln Ser Ile Cys Lys Tyr Pro Asp Tyr Leu Gln Met Ser Ala
97 225 230 235 240
98 Asp Pro Tyr Gly Asp Ser Met Phe Phe Cys Leu Arg Arg Glu Gln Leu
99 245 250 255
100 Phe Ala Arg His Phe Trp Asn Arg Ala Gly Val Met Gly Asp Thr Val
101 260 265 270
102 Pro Thr Asp Leu Tyr Ile Lys Gly Thr Ser Ala Asn Met Arg Glu Thr
103 275 280 285
104 Pro Gly Ser Cys Val Tyr Ser Pro Ser Pro Ser Gly Ser Ile Thr Thr
105 290 295 300
106 Ser Asp Ser Gln Leu Phe Asn Lys Pro Tyr Trp Leu His Lys Ala Gln

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108 Gly His Asn Asn Gly Ile Cys Trp His Asn Gln Leu Phe Val Thr Val
109          325          330          335
110 Val Asp Thr Thr Arg Ser Thr Asn Leu Thr Leu Cys Ala Ser Thr Gln
111          340          345          350
112 Asn Pro Val Pro Asn Thr Tyr Asp Pro Thr Lys Phe Lys His Tyr Ser
113          355          360          365
114 Arg His Val Glu Glu Tyr Asp Leu Gln Phe Ile Phe Gln Leu Cys Thr
115          370          375          380
116 Ile Thr Leu Thr Ala Glu Val Met Ser Tyr Ile His Ser Met Asn Ser
117 385          390          395          400
118 Ser Ile Leu Glu Asn Trp Asn Phe Gly Val Pro Pro Pro Pro Thr Thr
119          405          410          415
120 Ser Leu Val Asp Thr Tyr Arg Phe Val Gln Ser Val Ala Val Thr Cys
121          420          425          430
122 Gln Lys Asp Thr Thr Pro Pro Glu Lys Gln Asp Pro Tyr Asp Lys Leu
123          435          440          445
124 Lys Phe Trp Thr Val Asp Leu Lys Glu Lys Phe Ser Ser Asp Leu Asp
125 450          455          460
126 Gln Tyr Pro Leu Gly Arg Lys Phe Leu Val Gln Ala Gly Leu Arg Arg
127 465          470          475          480
128 Arg Pro Thr Ile Gly Pro Arg Lys Arg Pro Ala Ala Ser Thr Ser Thr
129          485          490          495
130 Ala Ser Arg Pro Ala Lys Arg Val Arg Ile Arg Ser Lys Lys
131          500          505          510
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136 <212> TYPE: DNA
137 <213> ORGANISM: Human Papillomavirus Type 45
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142 cgattattaa ctgtaggcaa tccatatttt agggttgtac ctagtggtagc aggtaataaa 180
143 caggctgttc ctaagggtatc cgcatatcag tatagggtgt ttagagtagc tttgccccgat 240
144 cctaataaat ttggattacc tgattctact atatataatc ctgaaacaca acgtttgggt 300
145 tgggcatgtg taggtatgga aattggtcgt gggcagcctt taggtattgg cctaagtggc 360
146 catccatttt ataataaatt ggatgataca gaaagtgtct atgcagctac agctgttatt 420
147 acgcaggatg ttagggataa tgtgtcagtt gattataagc aaacacagct gtgtatttta 480
148 ggttgtgtac ctgctattgg tgagcactgg gccaaaggga cactttgtaa acctgcacaa 540
149 ttgcaacctg gtgactgtcc tcctttggaa cttaaaaaca ccattattga ggatggtagat 600
150 atggtggata caggttatgg ggcaatggat tttagtagat tgcaggatag aaagtgcgag 660
151 gttccattag acattttgtca atccatctgt aaatatccag attatttgca aatgtctgct 720
152 gatccctatg gggattctat gtttttttgc ctacgccgtg aacaactgtt tgcaagacat 780
153 ttttggaata gggcagggtg tatgggtgac acagtaccta cagacctata tattaaggc 840
154 actagcgcta atatgcgtga aaccctggc agttgtgtgt attccccttc tccagtggtc 900
155 tctattacta cttctgattc tcaattattt aataagccat attggttaca taaggccag 960
156 ggccataaca atgggtattg ttggcataat cagttgtttg ttactgtagt ggacactacc 1020
157 cgcagtacta atttaacatt atgtgcctct acacaaaatc ctgtgcaaaa tacatatgat 1080
158 cctactaagt ttaagcacta tagtagacat gtggaggaat atgatttaca gtttattttt 1140

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159 cagttgtgca ctattacttt aactgcagag gttatgtcat atatccatag tatgaatagt 1200
160 agtatattgg aaaattggaa ttttggtgta cctccaccac ctactacaag tttagtggat 1260
161 acatatcggtt ttgtgcaatc agttgctgtt acctgtcaaa aggatactac acctccagaa 1320
162 aagcaggatc catatgataa attaaagttt tggactgttg acctaaagga aaaattttcc 1380
163 tccgatttgg atcaatatcc ccttggtcga aagtttttag ttcaggctgg gttacgtcgt 1440
164 aggcctacca taggacctcg taagcgtcct gctgcttcca cgtctactgc atctaggcct 1500
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170 <213> ORGANISM: Artificial Sequence
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180 <212> TYPE: DNA
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184 <223> OTHER INFORMATION: PCR Primer
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191 <212> TYPE: DNA
192 <213> ORGANISM: Artificial Sequence
194 <220> FEATURE:
195 <223> OTHER INFORMATION: PCR Primer
197 <400> SEQUENCE: 6
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201 <211> LENGTH: 35
202 <212> TYPE: DNA
203 <213> ORGANISM: Artificial Sequence
205 <220> FEATURE:
206 <223> OTHER INFORMATION: PCR Primer
208 <400> SEQUENCE: 7
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211 <210> SEQ ID NO: 8
212 <211> LENGTH: 1533
213 <212> TYPE: DNA
214 <213> ORGANISM: Artificial Sequence
216 <220> FEATURE:
217 <223> OTHER INFORMATION: HPV45 L1R - Antisense
219 <400> SEQUENCE: 8
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222 tctaacaact gacagccatt gggatatgaag tctcagcagg gtaggccacg accattgttc 180

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225 acccgtagcg agccatacct ttagccatct ccagttggta acccatagcc aaacagacca 360
226 gtgggtaaga tgttggttcaa cctgctgtgg cttaggcgag tgcgacgatg acgacagtag 420
227 tgagttctgc agtctctgtt gcagagacag ctgatgttcg tttgggttaa cacatagaac 480
228 ccaacacagg gtcgatagcc acttgtagcc cgattcccat ggaacacatt cggtcgagtt 540
229 aacgttgggtc cactgacagg tggtaacctt aacttcttgt gatagtagct tctgccactg 600
230 taccaactgt gaccaatgcc acgatacctg aagaggtggg acgtcctgtg attcacactt 660
231 caaggtaacc tgtagacagt tagatagaca ttcattgggtc tgatgaacgt ttacaggcga 720
232 ctgggtatgc cactgagata caagaagaca aactcttctc ttgttaacaa gcgatctgtg 780
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VERIFICATION SUMMARY

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Input Set : A:\21500P SEQLIST.TXT

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L:16 M:270 C: Current Application Number differs, Replaced Current Application No

L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date